

Occurrence Report

Waste Isolation Pilot Plant

(Name of Facility)

Nuclear Waste Operations/Disposal

(Facility Function)

Carlsbad Field Office

Westinghouse Waste Isolation Div.

(Laboratory, Site, or Organization)

Name: xxxxx

Title: Facility Manager Designee

Telephone No.: (505) 234-xxxx

(Facility Manager/Designee)

Name: xxxxx

Title:

Telephone No.: (505) 234-xxxx

(Originator/Transmitter)

Name:

Date:

(Authorized Classifier (AC))

1. Occurrence Report Number: ALO--WWID-WIPP-2002-0002

BUCKET LOADER UPSET

2. Report Type and Date: Final

	Date	Time
Notification:	07/22/2002	10:03 (MTZ)
Initial Update:	07/31/2002	08:41 (MTZ)
Latest Update:	07/31/2002	08:41 (MTZ)
Final:	01/14/2003	07:51 (MTZ)

3. Occurrence Category: Off-Normal

4. Number of Occurrences: 1

Original OR:

5. Division or Project: WTS / Waste Isolation Pilot Plant

6. Secretarial Office: EM - Environmental Management

7. System, Bldg., or Equipment: LHD Bucket Loader

8. UCNI?: No

9. Plant Area: Underground

10. Date and Time Discovered: 07/18/2002 07:25 (MTZ)

11. Date and Time Categorized: 07/18/2002 09:15 (MTZ)

12. DOE Notification:

13. Other Notifications:

Date	Time	Person Notified	Organization
07/18/2002	09:30 (MTZ)	Facility Rep.	CBFO

14. Subject or Title of Occurrence:

BUCKET LOADER UPSET

15. Nature of Occurrence:

10) Cross-Category Items

B. Near Miss Occurrences

16. Description of Occurrence:

At 0725 on July 18, 2002, an employee was operating an LHD in the underground to move mined salt. (An LHD - Load Haul Dump - is a low silhouette, wheeled bucket loader specially designed for use in mines.) While preparing to dump a bucket of salt, the operator positioned the LHD on and between two adjacent piles of salt, with the wheels on the two piles. The LHD was sitting on the salt piles at an angle, with the right side of the machine lower than the left. When the operator raised the bucket in preparation for dumping it, the center of gravity for the LHD was raised and it tipped over onto its right side, supported at a 45 degree angle by a salt pile.

The operator was not injured, and the LHD was not damaged.

17. Operating Conditions of Facility at Time of Occurrence:

Routine mining activities

18. Activity Category:

03 - Normal Operations

19. Immediate Actions Taken and Results:

The Operator reported the event to his manager. He claimed no injuries and was escorted to the nursing station on the surface for a medical exam and submission of a sample for mandatory drug screening in accordance with WIPP policy.

The accident site was preserved until an investigation team arrived at the site. Photographs were taken, interviews conducted, and written statements submitted.

A Root Cause Analysis Team was appointed. The LHD was pulled over onto all four wheels and examined for damage. No damage was noted.

20. Direct Cause:

- 3) Personnel Error
 - D. Other Human Error

21. Contributing Cause(s):

- 5) Training Deficiency
 - C. Inadequate Content
- 6) Management Problem
 - C. Inadequate Supervision

22. Root Cause:

- 6) Management Problem
 - B. Work Organization/Planning Deficiency

23. Description of Cause:

DIRECT CAUSE: The operator drove his equipment onto unstable ground in an other than level attitude and raised the loaded bucket, causing the machine to tip over. A better appreciation of the potential hazards involved with his action could have prevented the event.

CONTRIBUTING CAUSES: 1) Neither the Qualification Card nor the accompanying Program Guide contain any reference to hazards associated with equipment operation on unstable ground or the effect on machine stability when a loaded bucket is raised high. 2) During the supervisor's pre-shift review of the work site, he did not identify the scene as presenting a potential hazardous work environment. Not having identified any particular hazards warranting a concurrent visit to the site with the employee, he did not provide detailed tasking instructions.

ROOT CAUSE: The planning and scoping of the method to be used for storing muck presented the opportunity for this event. The requirement to move stored muck from one location to another in a relatively confined area indicates lack of forethought in the original disposition of mined salt that needed to be temporarily stored underground because of periodic maintenance on the salt hoist.

24. Evaluation (by Facility Manager/Designee):

A Root Cause Analysis Team has begun investigation of the event.

UPDATE WITH FINAL REPORT: Even though there were no injuries or equipment damage, the potential for serious consequences is fully appreciated and the event was viewed very seriously by WIPP management. A safety stand-down was held as soon as the root cause team identified preliminary causes. The stand-down reviewed this particular event, and then addressed equipment operation in general. The stand-down included not only underground personnel, but all work groups on the surface.

25. Is Further Evaluation Required?: No

26. Corrective Actions

(* = Date added/revised since final report was approved.)

1. Hold a safety meeting with the underground mining crew operating the LHD and other mobile mining equipment to review this event and emphasize the hazards of operating mobile equipment on uneven ground.

Target Completion Date: 07/18/2002	Completion Date: 07/18/2002
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2. Implement a "Safety Stand-down" to review this event with all personnel on site who work with mobile equipment.

Target Completion Date: 07/24/2002	Completion Date: 07/24/2002
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3. Revise the qualification guide for the LHD to specifically include a discussion of the hazards associated with operating on ground that is unstable or not level, and the effects on machine stability when a loaded bucket is elevated.

Target Completion Date: 09/30/2002	Completion Date: 09/11/2002
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4. Review the qualification guides for other equipment used in underground work routines. Revise these guides as necessary to include all appropriate safety issues that could reasonably be encountered during equipment operation.

Target Completion Date: 12/31/2002	Completion Date: 12/17/2002
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5. Review the planning and decision process related to temporary storage of mined salt in the underground.

Target Completion Date: 08/05/2002	Completion Date: 08/05/2002
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6. Conduct a review of this event with underground managers and supervisors, emphasizing their responsibility to review work sites and more critically evaluate potential hazards. When a potential hazard is identified:
 - 1) Discuss those hazards with the employees assigned the work.
 - 2) Tour the work site with assigned employees if appropriate.
 - 3) Ensure the employee understands the safe operating envelope for the task.

Target Completion Date: 08/05/2002	Completion Date: 08/05/2002
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7. Incorporate a hazard analysis for individual items of equipment similar to the Job Hazard Analysis (JHA) developed and used for routine work assignments. Use that file when briefing employees on an assigned task. Note: ongoing item begun on 7/22/2002 with no end date.

Target Completion Date: 07/22/2002

Completion Date: 07/22/2002

27. Impact on Environment, Safety and Health:

None - potential for personnel injury was high.

28. Programmatic Impact:

None

29. Impact on Codes and Standards:

None

30. Lessons Learned:

Safety issues related to operation of mobile equipment of all types need to be periodically reviewed with personnel. Some equipment may have stability concerns (forklifts, loaders, man-lifts etc.), and some items have more generic operational issues associated (road vehicles, "golf cart" type personnel carriers, etc.). Understanding the inherent vehicle safety issues and special concerns presented by a particular work environment are critical to safe operation.

31. Similar Occurrence Report Numbers:

1. none

32. User-defined Field #1:

33. User-defined Field #2:

34. DOE Facility Representative Input:

The Facility Representative (FR) concurs with the immediate actions taken and follow-up activities by the M&OC are adequate to preclude recurrence of similar off-normal events in the WIPP underground facility.

Entered by: xxxxx

Date: 01/14/2003

35. DOE Program Manager Input:

36. Approvals:

Approved by: xxxxx, Facility Manager/Designee

Date: 07/31/2002

Telephone No.: (505) 234-xxxx

Approved by: xxxxxD, Facility Representative/Designee

Date: 01/14/2003

Telephone No.: (505) 234-xxxx

Approved by: Approval delegated to FR

Date: 01/14/2003

Telephone No.:
